

In the claims:

Following is a complete set of claims as amended with this Response.

1. (Currently Amended) An apparatus comprising:

a tuner to receive modulated video signals, the tuner having an external control interface to receive commands in a first protocol specific to the tuner at the external control interface; and

a graphics controller to generate commands in a second generalized protocol;

a microcontroller coupled to the graphics controller and to the tuner to receive the commands from the graphics controller in the second protocol, to convert the commands from the second protocol to the first protocol, and to transmit the converted commands to the tuner through the external control interface of the tuner.

2. (Previously Presented) The apparatus of Claim 1, wherein the tuner further generates command responses in the first protocol and wherein the microcontroller receives the command responses, converts them to the second protocol and transmits the converted command responses to the graphics controller.

3. (Previously Presented) The apparatus of Claim 1, further comprising a second tuner to receive a modulated video signal, the second tuner having an external interface to receive commands in a third protocol specific to the second tuner, and wherein the microcontroller receives external commands from the graphics controller for the second tuner in the second protocol, converts them to the third protocol, and transmits them to the second tuner.

4. (Original) The apparatus of Claim 1, wherein the tuner further comprises an input/output interface to communicate data and control signals in the first protocol to external devices and wherein the microcontroller is coupled to the input/output interface to convert data and control signals between the first protocol and the second protocol.

5. (Previously Presented) The apparatus of Claim 1, wherein the graphics controller comprises a system processor coupled to the microcontroller to generate the commands in the first protocol to control the tuner and to control other functions of the apparatus.

6. (Original) The apparatus of Claim 1, further comprising a look-up table for the tuner and wherein the microcontroller converts the external tuner commands by applying the commands in the second protocol to the look-up table.

7. (Original) The apparatus of Claim 1, further comprising an instruction stack specific for the tuner and wherein the microcontroller converts the external tuner commands by applying instructions from the tuner-specific instruction stack.

8. (Currently Amended) A method comprising:  
generating commands in a second generalized protocol at a graphics controller to control a tuner;  
receiving the commands at a microcontroller from the graphics controller;  
converting the received commands from the second protocol to a first protocol, the first protocol being specific to the tuner; and  
transmitting the commands to the tuner through an external control interface of the tuner in the first protocol.

9. (Previously Presented) The method of Claim 8, further comprising:  
receiving command responses in the first protocol at the microcontroller from the  
tuner;

converting the received command response to the second protocol; and  
transmitting the converted command responses to the graphics controller.

10. (Previously Presented) The method of Claim 8, further comprising:  
receiving at the microcontroller from the graphics controller commands in the  
second protocol for a second tuner;

converting the second tuner external commands to a third protocol, the third  
protocol being specific to the second tuner; and

transmitting the third protocol commands to the second tuner.

11. (Original) The method of Claim 8, wherein converting the external tuner  
commands comprises applying the commands in the second protocol to a look-up table.

12. (Original) The method of Claim 8, wherein converting the external tuner  
commands comprises applying instructions from a tuner-specific instruction stack.

13. (Currently Amended) An article comprising a machine-readable medium  
having stored thereon data representing instructions which, when executed by a machine,  
cause the machine to perform operations comprising:

generating commands in a second generalized protocol at a graphics controller to  
control a tuner;

receiving the commands at a microcontroller from the graphics controller;

converting the received commands from the second protocol to a first protocol,  
the first protocol being specific to the tuner; and

transmitting the commands to the tuner through an external control interface of the tuner in the first protocol.

14. (Previously Presented) The medium of Claim 13, further comprising instructions which, when executed by the machine, cause the machine to perform further operations comprising:

receiving command responses in the first protocol at the microcontroller from the tuner;

converting the received command responses to the second protocol; and

transmitting the converted command responses to the graphics controller.

15. (Previously Presented) The medium of Claim 13, further comprising instructions which, when executed by the machine, cause the machine to perform further operations comprising :

receiving at the microcontroller from the graphics controller commands in the second protocol for a second tuner;

converting the second tuner external commands to a third protocol, the third protocol being specific to the second tuner; and

transmitting the third protocol commands to the second tuner.

16. (Original) The medium of Claim 13, wherein the instructions for converting the external tuner commands comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising applying the commands in the second protocol to a look-up table.

17. (Original) The method of Claim 13, wherein the instructions for converting the external tuner commands comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising applying instructions from a tuner-specific instruction stack.

18. (Currently Amended) A video tuner comprising:

- a system processor to receive user commands and to generate commands in a second generalized protocol based on the received user commands to control at least one tuner;
- a tuner to receive wireless video signals modulated over a carrier frequency, the tuner having an external control interface to receive commands in a first protocol specific to the tuner from the system processor; and
- a microcontroller coupled between the system processor and to the tuner to receive tuner commands from the system processor in the second protocol, to convert them from the second generalized protocol to the first specific protocol, and to transmit them to the tuner through the external control interface.

19. (Previously Presented) The tuner of Claim 18, wherein the tuner further generates command responses in the first protocol and wherein the microcontroller receives the command responses, converts them to the second protocol and transmits the converted command responses to the system processor.

20. (Previously Presented) The tuner of Claim 18, further comprising a second tuner to receive modulated video signals, the second tuner having an external interface to receive commands in a third protocol specific to the second tuner, and wherein the microcontroller receives second tuner commands from the system processor for the

second tuner in the second protocol, converts them to the third protocol, and transmits them to the second tuner.

21. (Original) The tuner of Claim 18, wherein the tuner further comprises an input/output interface to communicate data and control signals in the first protocol to external devices and wherein the microcontroller is coupled to the input/output interface to convert data and control signals between the first protocol and the second protocol.

22. (Previously Presented) The tuner of Claim 18, further comprising a look-up table for the tuner and wherein the microcontroller converts the tuner commands from the system processor by applying the commands in the second protocol to the look-up table.

23. (Previously Presented) The tuner of Claim 18, further comprising an instruction stack specific for the tuner and wherein the microcontroller converts the tuner commands from the system processor by applying instructions from the tuner-specific instruction stack.